

REMARKS

Claims 1-46 are pending and examined in this application. Through this paper, claims 1-3, 6, 7, 20, 25-27, 30, 31, 33, and 43-46 are amended without any intention of disclaiming equivalents thereof.

Specifically, claims 1, 25, 26, 30, and 43-46 are amended to recite “migratory movement” instead of “movement.” Support for these amendments can be found throughout the specification, for example, on page 17, lines 26-28; page 19, line 29 to page 20, line 3; and page 20, lines 13-22. Claim 46 is further amended to recite that the electrophoretic display medium comprises electrophoretic particles, the support of which can be found throughout the specification. Other amendments are of a formal nature to correct typographical errors. Applicant respectfully submits that no new matter is added.

Claim Rejections under 35 U.S.C. § 102

Claims 1, 2, 6-13, 16-20, 23-27, 29, 30, 40-46 are rejected under 35 U.S.C. § 102 over U.S. Patent No. 5,055,662 to Hasegawa (hereinafter “Hasegawa”). Applicants respectfully traverse the rejections. However, Applicants have made clarifying amendments to describe what Applicants consider as their invention with more particularity. Specifically, claims 1, 25, 26, 30, and 43-46 have been amended to recite “migratory movement” instead of “movement” to emphasize how claimed electrophoretic particles operate to change the optical appearance of a display medium, whether the display medium is part of an authentication marker or of a secure document, as set forth in the rejected claims.

Hasegawa does not teach or suggest at least an *electrophoretic* display medium having a plurality of *electrophoretic* particles where the display state changes as a result of *migratory movement* by the electrophoretic particles, as set forth in amended claims 1, 25, 26, 30, and 43-45. Electrophoresis, the phenomenon underlying the present invention, is defined generally and understood by one skilled in the art as, a process in which particles with a net electric charge migrate in a solution under the influence of an electric current. See, e.g., *McGraw-Hill Dictionary of Scientific and Technical Terms*

666 (5th ed. 1994). As described in the Application, electrophoretic particles migrate away from or towards electrodes under the influence of an electrical signal. Application, pg. 20, lns. 13-18.

In contrast, Hasegawa describes the use of a liquid crystal layer 12 where particles react to an electric field by changing their orientations to effect changes in light transmittance. *See* Hasegawa, col. 3, lns. 16-47 (“vertical orientation treatment” “arranged perpendicularly” “arranged parallel with ...” “oriented uniformly perpendicular to ...”). The change in the orientation of particles does not encompass “migratory movement” as recited in Applicants’ amended claims. For example, a common definition of the word “orient” is “to cause the axes of the molecules to assume the same direction.” *See, Webster’s Ninth New Collegiate Dictionary* 832 (1984). Changes in molecular axes are achieved through rotational motion and not translational motion. In contrast, the term “migratory motion,” as used in the Application and the art requires translation, i.e., motion from one location to another. *See, e.g., The American Heritage Dictionary* 795-96 (2nd College ed, 1991). Accordingly, Hasegawa does not teach or suggest at least an electrophoretic display medium having a plurality of electrophoretic particles where the display state changes as a result of migratory movement by the electrophoretic particles.

In addition, claims 26, 30, and 44-46 are directed to either a secure document or a method for securing a substrate or document where an electrophoretic display medium shields or obscures a message upon application of an electric signal. Hasegawa does not teach or suggest obscuring a message upon the application of an electric signal. In contrast, updatable information stored in Hasegawa’s card is designed to be visible at all time. *See* Hasegawa, col. 2, lns. 23-33; col. 4, lns. 12-15 and 28-32; and col. 5, lns. 59-66.

At least for reasons above, Applicants respectfully submit that Hasegawa does not teach or suggest all the limitations of claims 1, 25, 26, 30, 43-46, or their dependent

claims, and request the reconsideration and withdrawal of all rejections under 35 U.S.C. § 102.

Claim Rejections under 35 U.S.C. § 103

Claims 3-5, 14, 15, 21, 22, 28, and 31-39 are rejected under 35 U.S.C. § 103(a) over Hasegawa in view of U.S. Patent No. 3,668,106 to Ota (hereinafter "Ota").

Applicants respectfully submit that neither motivation to combine Hasegawa and Ota, nor reasonable expectation of success in such a combination is provided as mandated by MPEP and relevant case law.

Ota describes an electrophoretic display where non-encapsulated electrophoretic powders are suspended between a pair of electrodes. Ota, col. 1, lines 48-69. Ota does not provide any teaching related to document authentication. The present Application, in contrast, teaches how specific traits of the present invention can be utilized and applied in object authentication, especially document authentication. For example, Applicants teach that their displays can be flexible, mass-produced, and set to a display state that hides a message, such that, as a marker, the display is compatible with paper-like substrate and yet cannot be photocopied or otherwise replicated -- much like putting watermark on the currency. Application, pages 1-4. Ota, however, is devoid of teaching as to why and how to apply its electrophoretic display technology to make a security device, or if such an application should be successful. Moreover, with respect to claims 28 and 31-39, Ota does not teach or suggest obscuring a message upon the application of an electric signal, a deficiency in Hasegawa discussed above.

Therefore, the attempted combination of Hasegawa and Ota is without a sound foundation, and should not be used as the basis for rejecting claims 3-5, 14, 15, 21, 22, 28, and 31-39 under 35 U.S.C. § 103. Accordingly, Appellants respectfully request the reconsideration and withdrawal of all the rejections under 35 U.S.C. § 103.


Summary

Applicant respectfully requests that the Examiner reconsider the application and claims 1-46 in light of the foregoing amendment and remarks, and respectfully submits that the claims, as amended, are in condition for allowance. If, in the Examiner's opinion, a telephonic interview would expedite the favorable prosecution of the present application, the undersigned attorney would welcome the opportunity to discuss any outstanding issues, and to work with the Examiner toward placing the application in condition for allowance.

Respectfully submitted,

Date: July 19, 2004
Reg. No. (Limited Recognition)

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